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ABSTRACT

Focusing on the problem of choosing a presentation medium, this paper discusses instructional considerations involved in the production of bibliographic instructional programs in non-print media. The practical and ecoromic characteristics and level of abstraction are differentiated for audiotape, slide/tape, videotape, and film, and appropriate media are suggested for bibliographic topics, visual/static subjects, and involved topics. Production steps that follow the choice of medium are noted, and some problems in their use are identified. (JD)

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BIBLIOGRAPHIC INSTRUCTION II:

PRODUCTION OF AN INSTRUCTIONAL PROGRAM IN A NON-PRINT MEDIUM

by

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BIBLIOGRAPHIC INSTRUCTION II: PRODUCTION OF AN INSTRUCTIONAL PROGRAM IN A NON-PRINT MEDIUM

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Obviously, development of an instructional program from the stage described by C. Schildhauer[1] to final production is not linear. Consultation between the library instructor and the producer must begin early on in any instructional project because many aspects of script writing depend on the choice of the medium for final presentation.

Choice of the presentation medium can be as crucial to success as choice of a topic. Besides the obvious options of a live lecture or a written instruction sheet, the non-print media are a possibility.

Research in the field of educational psychology has tried for years to rate the effectiveness of various media compared to live instructors or written texts. Results have been inconclusive. Generally, they suggest that a well produced presentation in a non-print medium <u>can</u> be as effective as a well presented lecture or well written text. The variables of quality and the researcher's pre-conceived bias seem to determine the outcome of the research. Some conclusions are supportable, however. First, a recorded presentation once done is done. If it is complete and correct, it can save a lot of time and personnel cost over its life-span. It is also a quality control device; it can help insure

against the "short form" hit and miss instruction which might occur when the instructor is dealing with a number of problems at one time. Second, a pre-recorded production is available when the learner needs it. Library instructors have schedules and work loads to balance. An instructional session must be scheduled when it can be fit into the library's schedule. This may, or may not suit the needs of a particular learner. A recorded lesson can be used at the learner's convenience. Additionally, with a recorded presentation, the whole philosophical question of instruction before assignment versus instruction after assignment, which is currently a hot topic in bibliographic instruction circles, is meaningless; the learner helps himself to instruction when he needs it or wants it. The assumption is that a person who perceives his need for instruction will learn more from it. This is the rationale behind the Point-of-Use instructional program employed at the MIT Barker Engineering Library.[2]

If, for these or other reasons, a decision is made to present the materials in non-print form, the question arises: which non-print form? For practical reasons, computer-based programmed-instruction, interactive or otherwise, and programmed-instruction using one of the commercially available "teaching machines" can probably be eliminated right away. Few libraries have access to the hardware, the programming expertise, the funds, or the time necessary to develop such programs. So, that leaves film, audiotape, synchronized slide/tape and videotape. Each has its virtues. Among them the choice may be made for practical reasons, instructional reasons or aesthetic reasons, all equally valid.

Using practical and economic tests, usually involves weighing not only the costs of the production, but also the availability of recording and play-back

facilities and the difficulty of production in each medium. According to these criteria, the four media are ranked:

Audiotape: Inexpensive. Playback and recording equipment readily available. Production techniques easy to learn.

Slide/tape: Moderately inexpensive. Cameras, recording and synchronizing equipment usually available; playback equipment not really reliable. Production relatively easy.

Videotape: Expensive. Recording and playback equipment often available in educational and research organizations, but rarely in libraries. Production fairly specialized.

Film: Expensive. Recording facilities not generally available; playback (projector) inconvenient for library use. Recording techniques very specialized.

Instructional considerations depend on interpretation of the reams of data from educational research. Edgar Dale's "cone of experience"[3] is one interesting treatment of these data. His model is a cone with its apex on top and a broad base, which represents the degree of abstraction of the message presented. At the top of the cone, messages are presented in a very abstract way: spoken words or graphic symbols. In a librarian's frame of reference, a lecture about a book would be the most abstract presentation, a written paper, less so. At the bottom of the cone are the least abstract instructional formats: contrived "experiments" and "real life" experience, like the unplanned discovery of a book. To some extent, these levels of abstraction reflect levels of efficiency (the more abstract, the more efficient; the lower the abstraction, the more personal and unpredictable the instruction).

William Allen[4] relates these levels of abstraction to the intellectual level of the audience; more sophisticated audiences pay closer attention to more abstract media, less sophisticated audiences need more sensory cues to comprehend the material presented. The trick is to plan a presentation at a level of abstraction low enough to be effective and high enough to be efficient.

The non-print media fall somewhere in the middle third of the scale in order, from less to more abstract:

Film: mediated reality. Uses color, sound, motion, can even be life size.

Videotape: mediated reality in a box. Uses sound and motion, sometimes color.

Slide/tape: Less real. No motion portrayed.

Audiotape: More abstract, sometimes, than a printed lesson; no visual cues at all.

Obviously, use of effects, like cartoons, or extra cues, like sample pages, can alter these levels somewhat.

The cone model does not deal with the aesthetic considerations which effect choice of a medium, and sometimes effectiveness of the presentation. In McLuhan's terms, "the medium is the message", or less cryptically, the message and the medium must suit each other.[5] The degree to which this is so can greatly effect the program's impact. From experience with the Point-of-Use materials, some relationships between the media and library messages have become apparent.

For bibliographic topics, like use of CHEMICAL ABSTRACTS, audiotapes with sample pages are most efficient and effective. The sample page is copy of a

relevant page from the tool being discussed, with the same layout, type faces, and organization. Transferring skills learned in the sample to a real page is much more direct than transferring from a slide of the page or some other visual representation of it. Additionally, reproduction of bibliographic data in a slide medium or on videotape is very difficult; poor reproduction can cause additional frustration and inhibit learning.

For visual, but static, subjects, like the card catalog, we use the synchronized slide/tape. Slides show spatial relationships and emphasize visual cues, like colors, peoples' faces, and landmarks, which may not be mentioned explicitly on the sound track. However, one can only watch slides click by for a finite time; fatigue sets in at different times for different people, but 10 to 15 minutes is an upperbound. After that drowsiness or hypnosis inhibits learning altogether.

For involved topics, which take longer to explain, like searching patent literature, or subjects which involve action, like using a computer terminal, film or videotape are the available media. It must be recognized that we are a media rich culture; we are used to sitting still for hours in front of a television screen. We are willing to tolerate an instructional program on videotape or film that is half-an-hour long. However, because we are so sophisticated where the media are concerned, our credibility and attention span depend heavily on the style of the film or television show. Specifically, a porta-pak or a "home movie" is less impressive, therefore less memorable or credible, than a "professional" production. Even with a high quality production, elements of amateurism in the style can intrude between the message and the viewer, to

distract or confuse; viewers start paying attention to the program's medium rather than its message. However, to some extent this is a danger in any production medium.

Once the medium is chosen, with its virtues and limitations known, the script will have to modified -- or written -- to suit, following Schildhauer's guidelines. The next step is the production script, or shooting script, which is the formal script annotated with visuals, camera angles, production effects, sound effects, choreography, or whatever extra material or instructions should be connected to a set of phrases. A new producer should expect to make mistakes at this stage; classic problems include overuse of effects which distract from the message and underuse of effects which leads to boredom which itself distracts from the message. Expect to experiment. Every program is different.

With the shooting script done, the next step is location of a production crew and a production facility -- a radio station, recording studio, educational materials center, whatever is available. The more experienced personnel the better; one can learn a lot from photographers and radio technicians. Whatever the medium, it is worth the trouble to use only high quality, well-maintained, professional equipment to record. There is a world of difference between an audiotape made in an office, with all its background noise, on a portable cassette recorder, and one made in a sound studio on quality equipment. This difference is even more striking in video media. The audience will notice.

The "featured talent" is also crucial to a production. Three axioms to follow are: 1- do not use a friend (few friendships can stand that kind of strain) 2- do not use a librarian (exceptions are librarians who are used to appearing on radio and television) 3- do not use someone who will not take direction. Professions are not interchangeable; media professionals don't catalog books and librarians shouldn't assume they can read scripts. A professional radio announcer or budding actor will present the script in its best light. But, an explanation, and if needed a rewrite of the script will be necessary so that the talent is confortable with the wording. Also, pronunciation problems will doubtless occur. Are "abstracts and indexes" nouns or verbs? It makes a difference in inflection. Is the "c" in "accession" hard or soft? Only a librarian knows for sure.

There are lots of manuals on how to make an instructional program; they outline other production rules, like titling, making slides, and using cue cards. Some even discuss budgets, which depend so much on circumstances that they cannot be dealt with here. Another way to learn the tricks is to take a course or workshop in production. With any luck at all, there's an educational resources group or a public relations group nearby willing to take on an apprentice. Fortunately, where there is production equipment, there is usually someone who knows how to use it.

Once a program is finished, under budget, or at least on time, it should be tested on selected colleagues and library users - that way initial reviews will be gentle. Criticism is, however, inevitable -- some of it even substantive.

Everyone has to learn from mistakes. In the library field, the bibliographic tool discussed in the program will change title, the card catalog will be repainted, or a featured service will be dropped. The program will have to be updated sooner or later anyway.

1 - Carole Schildhauer. "Bibliographic Instruction I: Development of an Instructional Program". Paper given at SLA-78. ERIC #

2 - J.J. Gardner, "Point-of-Use Library Instruction" in EDUCATING THE LIBRARY USER (J. Lubans, ed.) N.Y.: Bowker, 1974, pp. 269-274.

3 - E. Dale. AUDIOVISUAL METHODS IN TEACHING, 3rd ed, N.Y.: Dryden Press, 1969

4 - W. Allen "Intellectual Abilities and Instructional Media Design" AV COMMUNICATION REVIEW v.23 (1975), pp. 129-167.

5 - M. McLuhan. UNDERSTANDING MEDIA: THE EXTENSION OF MAN. N.Y.: McGraw-Hill, 1964.